



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,521	10/07/2005	Zoran Janosevic	020500	6158
23696 7590 09/11/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER NGUYEN, TUAN HOANG	
			ART UNIT 2618	PAPER NUMBER
			NOTIFICATION DATE 09/11/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
nanm@qualcomm.com

Office Action Summary

Application No.

10/529,521

Applicant(s)

JANOSEVIC ET AL.

Examiner

Tuan H. Nguyen

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 21, 26, 27 and 30 is/are rejected.
- 7) ☒ Claim(s) 5-7, 22-25, 28-29 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response To Arguments

1. Applicant's arguments filed on 06/15/2007 with respect to claims 1-30 and 33 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matero (U.S PAT. 5,752,172) in view of Xiong (U.S PUB. 2004/0198261).

Consider claim 1, Matero teaches a method of calibrating a transmitter circuit having a first characteristic controllable by a first control signal (col. 4 line 63 through col. 5 line 5) and a second characteristic controllable by a second control signal (col. 4 lines 36-48), the method comprising: defining a set of multiple signal values for the first control signal (col. 4 lines 36-48); setting the first control signal to a level corresponding to a signal value from the set of multiple first control signal values (col. 2 lines 43-53).

Matero does not explicitly show that adjusting the second control signal to cause the transmitter to operate in a desired manner; measuring power in a signal transmitted by the transmitter while operating in the desired manner; and repeating the setting, adjusting and measuring for each signal value in the set of multiple first control signal values, where the second control signal comprises a gain control signal.

In the same field of endeavor, Xiong teaches adjusting the second control signal to cause the transmitter to operate in a desired manner (page 4 [0032]); measuring power in a signal transmitted by the transmitter while operating in the desired manner (page 3 [0025]); and repeating the setting, adjusting and measuring for each signal value in the set of multiple first control signal values, where the second control signal comprises a gain control signal (page 5 [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, adjusting the second control signal to cause the transmitter to operate in a desired manner; measuring power in a signal transmitted by the transmitter while operating in the desired manner; and repeating the setting, adjusting and measuring for each signal value in the set of multiple first control signal values, where the second control signal comprises a gain control signal, as taught by Xiong, in order to provide a method of self-calibration of a wireless LAN communication device includes entering a self-calibration mode when the device is powered up or commanded by software.

Consider claim 2, Matero further teaches recording data representing the measured power against the signal value from the set of multiple first control signal values (col. 6 lines 44-47).

Consider claim 21, Matero teaches a transmitter comprising: a receiver for receiving power data specifying a power value (col. 3 lines 20-32); an amplifier having a first characteristic controllable by a first control signal and a second characteristic controllable by a second control signal (col. 4 line 63 through col. 5 line 5); a store for storing data representing power values, corresponding first control signal values and corresponding second control signal values (col. 3 lines 44-54).

Matero does not explicitly show that a controller coupled to the receiver and the store and responsive to the received power data for generating from the data stored in the store a first control signal for controlling the first characteristic and a second control signal for controlling the second characteristic, wherein the first control signal comprises a current control signal.

In the same field of endeavor, Xiong teaches a controller coupled to the receiver and the store and responsive to the received power data for generating from the data stored in the store a first control signal for controlling the first characteristic and a second control signal for controlling the second characteristic, wherein the first control signal comprises a current control signal (page 5 [0039]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, a controller coupled to the receiver and the store

Art Unit: 2618

and responsive to the received power data for generating from the data stored in the store a first control signal for controlling the first characteristic and a second control signal for controlling the second characteristic, wherein the first control signal comprises a current control signal, as taught by Xiong, in order to provide a method of self-calibration of a wireless LAN communication device includes entering a self-calibration mode when the device is powered up or commanded by software.

4. Claims 3, 26-27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matero in view of Xiong and further in view of Pehlke (U.S PAT. 6,614,309).

Consider claim 3, Matero and Xiong, in combination, fails to teach the data is recorded as entries in a look-up table.

However, Pehlke teaches the data is recorded as entries in a look-up table (col. 4 line 64 through col. 5 line 14).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Pehlke into view of Matero and Xiong, in order to provide a bias controller that uses closed-loop control techniques to adjust a generated bias voltage up or down to make the supply current into the power amplifier circuit under quiescent conditions substantially match the target quiescent current value.

Art Unit: 2618

Consider claim 26, Pehlke further teaches the store comprises: a first look-up table for storing data representing power values and corresponding first control signal values (col. 4 line 64 through col. 5 line 14); and a second look-up table for storing data representing power values and corresponding second control signal values (col. 4 line 64 through col. 5 line 14).

Consider claim 27, Pehlke further teaches the store comprises multiple second look-up tables, one for each value in a set of first control signal values (col. 4 line 64 through col. 5 line 14); and the processor is arranged to use the specified power data to produce a first control signal value from the first look-up table and to use the thus produced first control signal value to identify a second look-up table for use in producing a second control signal value depending on the specified power data (col. 4 line 64 through col. 5 line 14).

Consider claim 30, Pehlke further teaches the data in the store is generated (col. 4 line 64 through col. 5 line 14).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matero in view of Xiong and further in view of Toki et al. (U.S. PUB. 2002/0021687, hereinafter "Toki").

Consider claim 4, Matero and Xiong, in combination, fails to teach the desired manner is defined by parameters including an adjacent channel leakage ratio range.

However, Toki teaches the desired manner is defined by parameters including an adjacent channel leakage ratio range (page 5 [0072]).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Toki into view of Matero and Xiong, in order to provide accurately detect power that leaks into an adjacent channel, so that information about the detected leakage power can be used for control of transmission power.

Reasons For Allowance

6. Claims 8-20 allowed over the prior art record.

7. The following is an examiner's statement of reasons for allowance:

Matero (U.S PAT. 5,752,172) teaches method of calibrating a transmitter circuit having a first characteristic controllable by a first control signal and a second characteristic controllable by a second control signal, the method comprising: defining a set of multiple signal values for the first control signal; defining a set of multiple power values representing power in a signal transmitted by the transmitter; setting the first control signal to a level corresponding to a signal value from the set of

Art Unit: 2618

multiple first control signal values; selecting a power value from the defined set of multiple power values.

Xiong (U.S. PUB. 2004/0198261) teaches adjusting the second control signal to cause the transmitter to transmit a signal with a power corresponding to the selected power value; and repeating the selecting and adjusting for each power value in the set of multiple power values.

The prior art made of record, alone or in combination, fails to clearly teach or fairly suggest minimizing a power supply current drawn by an amplifier over a dynamic range of the transmitter through at least one of the defining of a set of multiple signal values, defining of a set of multiple power values, setting of the first control signal, selecting of the power value, adjusting of the second control signal, and repeating of the selecting and adjusting, as specified in the independent claim 8, and further limitations of their respective dependent claims 9-20.

Allowable Subject Matter

8. Claims 5-7, 22-25, 28-29 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Art Unit: 2618

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window

Randolph Building

401 Dulany Street

Art Unit: 2618

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571) 272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen
Examiner
Art Unit 2618

TN


NAY MAUNG
SUPERVISORY PATENT EXAMINER